

ACCESSION NR: AP4042852

$K = \frac{\mu R_{ip}}{R_{ie} + R_{ip}}$, where μ is the equivalent amplifier gain, R_{ip} is the pentode internal dynamic resistance, and R_{ie} is the equivalent internal resistance. As the nonlinear-resistance-loaded cascode amplifier has a very narrow range of usable grid voltage, a special scheme modification is suggested for automatically holding the operating point in the middle of the linear portion of the characteristic. An experimental verification included a 3-stage (6S3P tubes) cascode amplifier loaded with a 6Zh8 pentode and operating at an anode voltage of 450 v with a measured gain of 14,000. Orig. art. has: 9 figures and 29 formulas.

ASSOCIATION: none

SUBMITTED: 28Jun63

ENCL: 00

SUB CODE: EC

NO REF SOV: 002

OTHER: 002

Card 2/2

MEL'NIKOV, E. F.

Roof caving in flat seams. Bezop-truda v prom. 7 no.424-6
Ap '63. (MIRA 16:4)

1. Pomoshchnik glavnogo inzhenera shakhty "Polysayevskaya-2".
(Mining engineering)

ACC NR: AT7004464

SOURCE CODE: UR/2834/66/051/001/0058/0063

AUTHOR: Mel'nikov, E. F.

ORG: none

TITLE: Features of roof control depending on orientation of jointing and direction of excavation

SOURCE: Leningrad. Gornyy institut. Zapiski, v. 51, no. 1, 1966, 58-63

TOPIC TAGS: mining engineering, coal, rock pressure, underground facility

ABSTRACT: The macrostructures of rocks are among the most significant factors affecting behavior of the roof during extraction of coal. The author considers the reaction on a roof support, taking into account the burden of overlying rock, size of timbering, length of working face, lateral pressure, orientation of jointing, friction in the rock, and thickness of the immediate roof. $R_1 = \gamma h \lambda (1 - f \cot \alpha)$ represents the reaction in timbering when the active face advances in the down-dip direction of the joints, and $R_2 = \gamma h \lambda (1 - 2 f \cot \alpha)$ represents the reaction when the face advances in the up-dip direction of the joints; γ = bulk weight of the rock, h = thickness of the immediate roof, λ = length of the working face, $f = 0.7$, and α = the dip of the joint surface. The proposed computational method permits determination (as a first approximation) of the effect of jointing orientation and direction of excavation on the displacement of

Card 1/2

UDC: 622.834.2

ACC NR: AT7004464

roof rocks and on the behavior of timbering. To find a satisfactory solution to problems concerning control of roof rocks and of rock pressure, careful study of jointing within the rock should be made during exploratory work on the deposit, whenever tunnels or other workings are planned and excavated. Orig. art. has: 3 figures and 13 formulas.

SUB CODE: 08/ SUBM DATE: none/ ORIG REF: 004

Card 2/2

MEL'NIKOV, E.I.

Center mandrel. Stan.1 instr. 33 no.12:36 D '62. (MIRA 16:1)
(Chucks)

Mei'nikov, E. Ya.

2
4247

~~Nitrogen industry of U.S.S.R. E. Ya. Mei'nikov:~~
~~Zhur. Priklad. Khim. 30, 1439-48 (1957). Forty years~~
progress report. I. Bencowitz

11

MEL'NIKOV, F.G. (g. Dnepropetrovsk)

Unused reserves in increasing the static loading of railroad cars.
Zhel.dor.transp. 37 no.7:82-83 J1 '56. (MLBA 9:8)

1. Zamestitel' nachal'nika stantsii Dnepropetrovsk.
(Railroads--Freight)

BADYUL, B.K., kandidat tekhnicheskikh nauk (Dnepropetrovsk); MEL'NIKOV, F.G.

Operational planning of dynamic loading of railroad cars. Zhel.dor.
transp.39 no.1:63-64 Ja '57. (MLRA 10:2)

1. Zamestitel' nachal'nika stantsii Dnepropetrovsk (for Mel'nikov).
(Railroads--Cars)

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES																										PROCESSES AND PROPERTIES																									
Production and service of unburnt gres refractories from Daskh rock. F. I. Melnikov, <i>Ogneuproy</i> 6, 1540-2 (1968); cf. Antipov, <i>Ibid.</i> 5, 2000 (1967), C. A. 32, 1884P. Dry-pressed refractories, bound with sulfate cellulose est., were obtained, which can be used for lining ceramic and other kilns. F. B. Stefanovsky																																																			
ALSO SEE METALLURGICAL LITERATURE CLASSIFICATION																																																			
RECORD NO. 11102148																																																			
RECORD NO. 11102148																																																			

117 AND 120 CODES										120 AND 6TH INDEX									
PROCESSES AND PROPERTIES INDEX																			
C 7 Manufacture of lightweight refractories by chemical method. S. V. GERROV AND P. I. MEL'NIKOV. <i>Vsesoyuz. Gosudarst. Inst. Nauch.-Issledovatel. i Priklad. Rabot. Ogneupor. Prom. Inst. Ogneupor. Lening. Ogneupor.</i>, 1945, pp. 40-60. - Raw materials were (1) Lyubytin plastic clay analyzing SiO_2 56.02, Al_2O_3 28.70, TiO_2 1.61, Fe_2O_3 1.10, CaO 0.80, MgO 0.51, and ignition loss 10.78%; having a grain composition of 2 mm 1 to 5, 1 mm 30 to 35, 0.5 mm 14 to 18, 0.2 mm 30 to 35, and <0.2 mm 18 to 20%; and sintering completely at 1250°C; (2) grog (dust obtained in grinding blast-furnace refractories) analyzing SiO_2 55.02, Al_2O_3 38.00, TiO_2 2.11, Fe_2O_3 2.73, CaO 0.73, MgO 0.21%; and consisting of 0.2 mm 12.0 and <0.2 mm 87.4%. Slip was prepared from clay 5.6, grog 80.0, dolomite 2.8, and gypsum 5.6%; the consistency of the slip prior to gas formation was that of thick cream. Sulfuric acid (1 to 3%) was added in an amount of 40.5% by weight of the dry components. The desirable water temperature is 8° to 20°. The products were dried at 20° to 30°; after 7 days the moisture content dropped from 30.5 to 8%. The brick were fired in periodic kilns, in the upper four rows, above other ware which was being fired at 1240° to 1300°; the firing lasted 152 hr. The brick were free of all cracks, deformations, and other defects. Characteristics were as follows: refractoriness 1710°C, bulk density 0.74; compressive strength 30 to 41 kg/cm², initial deformation 1190° under 0.8 kg/cm² and 1000° under 1.8 kg/cm²; formation of cracks after 1 thermal-shock cycle (1300° followed by air cooling) and over 20% weight loss after 4 to 5 cycles; reheat shrinkage at 1400° for 24 hr 5 to 7%; and at 1350° for 4 hr 3.5 to 4%; and coefficient of heat conductivity at 200°, 400°, 600°, and 800°, 0.151, 0.186, 0.193, and 0.218 kg cal/m.² °C. hr., respectively. B. Z. K.																			
AS 4-51A METALLURGICAL LITERATURE CLASSIFICATION																			
117 AND 120 CODES										120 AND 6TH INDEX									

MEL'NIKOV, F.I., kandidat tekhnicheskikh nauk.

Effect of calcium chloride on the strength of stiff concretes.

Stroi. prom. 35 no.1:42-43 Ja '57.

(MLRA 10:2)

(Concrete)

(Calcium chloride)

MEL'NIKOV, F.I., kand.tekhn.nauk

Physical and chemical processes in heat-resistant mortars and concretes
made with portland cement. Trudy NIIZHB no.7:30-59 '59.

(MIRA 12:11)

(Mortar)

(Concrete)

MEL'NIKOV, F.I., kand.tekhn.nauk

Characteristics of heat-resistant mortars made with portland cement.

Trudy NIIZHB no.7:60-88 '59.

(MIRA 12:11)

(Mortar)

MEL'NIKOV, F.I., kand.tekhn.nauk

Improving the properties of fire-clay cement mixes. Trudy NIIZHB
no.7:89-114 '59. (MIRA 12:11)
(Mortar) (Fire clay)

MEL'NIKOV, F.I., kand.tekhn.nauk

Comparative study of certain properties of mortars made with water-glass and portland cement. Trudy NIIZHB no.7:115-122 '59.

(MIRA 12:11)

(Mortar)

KARTASHOV, K.; NEKRASOV, K., doktor tekhn.nauk, prof.; MEL'NIKOV, F.^I
kand.tekhn.nauk

Heat-resistant concrete and reinforced concrete. Stroitel'
no.5:15 My '61. (MIRA 14:6)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury
SSSR (for Kartashov). (Refractory concrete)

NEKRASOV , K.D., doktor tekhn. nauk, prof., red.; AL'TSHULER, B.A.,
kand. tekhn. nauk, red.; MEL'NIKOV , F.I., kand. tekhn. nauk,
red.; MILOVANOV, A.F., kand. tekhn. nauk, red.; MILONOV, V.M.,
kand. tekhn. nauk, red.; SALMANOV, G.D., kand. tekhn. nauk,
red.; SASSA, V.S., kand. tekhn. nauk, red.; TARASOVA, A.P.,
kand. tekhn. nauk, red.; ROGINSKAYA, V.M., kand. tekhn. nauk,
red.; TESLENKO, M.K., kand. tekhn. nauk, red.; KUZNETSOVA,
M.N., red. izd-va; MOCHALINA, Z.S., tekhn. red.

[Fireproof concrete and reinforced concrete in construction]
Zharoupornye beton i zhelezobeton v stroitel'stve; trudy.
Moskva, Gos. izd-vo lit-ry po stroit., arkhitekt. i stroit.
materialam, 1962. 301 p. (MIRA 15:5)

1. Vsesoyuznoye soveshchaniye po voprosam issledovaniya, pro-
yektirovaniya, stroitel'stva i ekspluatatsii teplovykh agregatov
iz zharoupornykh betona i zhelezobetona, 1960. 2. Nauchno-
issledovatel'skiy institut betona i zhelezobetona Akademii
stroitel'stva i arkhitektury SSSR (for Nekrasov, Al'tshuler,
Mel'nikov, Milovanov, Milonov, Salmanov, Sassa, Tarasova).
(Furnaces) (Concrete construction)

MEL'NIKOV, F.P.

Structure and genesis of permatite bodies in central Kazakhstan.

Vest. Mosk. un. Ser. 4: Geol. 20 no.3:17-23 My-Je '65.

(MIRA 18:7)

1. Kafedra poleznykh iskopayemykh, Moskovskogo universiteta.

SHESTAKOVSKIY, S.[Shestakova'skiy, S.], prof., doktor biolog. nauk;
MEL'NIKOV, G.[Mel'nykov, G.], prof., doktor biolog. nauk;
ASTAPOVICH, I.[Astapovich, I.], doktor fiz.-matem. nauk

What do you think about the possibility of extraterrestrial
life? Nauka i zhyttia 12 no.2:30-31 F '63.

(MIRA 16:4)

(Life on other planets)

TKALENKO, V.; MEL'NIKOV, G., starshiy inzhener

Receiving and cleaning grain in a continuous operation at the Velichkovo Grain Receiving Station. Muk.-elev.prom. 26 no.5:12-13 My '60.
(MIRA 14:3)

1. Krasnodarskoye upravleniye khleboproduktov. 2. Nachal'nik tekhnicheskogo otdela Krasnodarskogo upravleniya khleboproduktov (for Tkalenko).

(Krasnodar Territory--Grain elevators)

S/254/62/000/010/001/001
D039/D112

MEL'NIKOV, G.

AUTHOR: Mel'nykov, H., Doctor of Biological Sciences, Professor

TITLE Space biology

PERIODICAL: Nauka i zhyttya, no. 10, 1962, 8-9

TEXT: This is a popular review of the problems of space biology as solved in all four Soviet manned space flights. The "Vostok-3" and "Vostok-4" flights showed for the first time that prolonged manned space flights are possible. In this connection, the hazards of radiation and solar flares are being intensively studied by Soviet scientists. Efficient physical, biological and chemical antiradiation means are now being developed. Radiation charts and forecasting of solar activity are proposed. A closed ecological system, synthesis of carbohydrates, fats and other final metabolic products, and synthesis of proteic nutrients with the aid of microorganisms, are considered for future prolonged space travel. H.A. Tykhov is mentioned as discussing the possibilities for life on Mars. There is 1 table show- ✓

Card 1/2

Space biology

S/254/62/000/010/001/001
D039/D112

ing the changes in the respiration and pulse rates of the cosmonauts A.
Nikolayev and P. Popovych during their space flight.

Card 2/2

MEL'NIKOV, G. [Mel'nykov, H.], inzh.

Electrothermal method for stretching bar reinforcements. Bud.mat.
i konstr. 1 no.1:7-14 0 '59. (MIRA 13:8)
(Electric heating) (Reinforcing bars)

MEL'NIKOV, G., inzh.

Reinforcing steel bottoms of concrete forms. Stroitel' no.3:
23 Mr '60. (MIRA 13:6)

(Concrete construction--Formwork)

MEL'NIKOV, G. A. (SOPS AN SSSR); and SHILO, N. A. (VNNII-1, Magadan)

"Complex Extraction of Metals,"

report presented at the Fifth Full Assembly of the Central Administration of the
Non-Ferrous Metallurgical Sci.- Tech. Society, Moscow 21-22 Feb 1958.

SUROV, P.N., glav. red.; NEDESHEV, A.A., nauchnyy sotr., otv. za vypusk;
ZHERDEV, F.G., red.; KUTS, L.I., nauchnyy sotr., red.; MEL'NIKOV,
G.A., red.; AMELIN, N., red.; YURGANOVA, M., tekhn. red.

[Natural resources and prospects for the economic development of
Chita Province; materials] Prirodnye bogatstva i perspektivy raz-
vitiia ekonomiki Chitinskoi oblasti; materialy.... Chita, Chitin-
skoe knizhnoe izd-vo, 1960. 147 p. (MIRA 15:1)

1. Konferentsiya po razvitiyu proizvoditel'nykh sil Vostochnoy
Sibiri. Chitinskoye regional'noye soveshchaniye. 2. Chitinskaya
kompleksnaya laboratoriya Sibirskogo otdeleniya Akademii nauk
SSSR (for Kuts). 3. Nachal'nik proizvodstvenno-tekhnicheskogo ot-
dela Chitinskogo sovnarkhoza (for Zherdev). 4. Direktor kompleksnoy
laboratorii Sibirskogo otdeleniya AN SSSR (for Mel'nikov).
(Chita Province--Natural resources)
(Chita Province--Industries)

MEL'NIKOV, G. A.

Prospects for the industrial utilization of the Chita Province
stockwork ores. Trudy Vost. Sib. fil. AN SSSR no.41:5-10 '62.
(MIRA 15:10)

1. Zabaykal'skiy kompleksnyy nauchno-issledovatel'skiy institut
Sibirskogo otdeleniya AN SSSR.

(Chita Province—Ore deposits)
(Ore dressing)

MEL'NIKOV, G.A., kand.geol.-mineral.nauk

Research problems in Transbaikalia. Trudy Zashch. no.1:3-7 '62.
(MIRA 18:2)

STATION, B. A.

1952. "Dielectric constant of water." *J. Chem. Phys.*, **20**, 1305, 1310.

CC: 1971 is' Journal'ng'ik State, Vol. 1, 1971

MEL'NIKOV, G. A., ALEKSEIN, F. YE.

Beets and Beet Sugar

Further improvement of the three-row beet combine SHEN-3. Ist.sel'khoz. no. 2, 1952.

MONTHLY LIST OF RUSSIAN ACCESSIONS. Library of Congress, November 1950. UNCLASSIFIED.

YEREMEYEV, I., MEL'NIKOV, G.

Harvesting Machinery

Use and repair of the beet combine harvester SKEM-3. Tekhosov. MTS 13 no. 29, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. UNCLASSIFIED

MEL'NIKOV, G.A.

AFANAS'YEVA, A.L., kand.biol.nauk; BAYERTUYEV, A.A., kand.sel'skokhozyaystvennykh nauk; BAL'CHUGOV, A.V., kand.sel'skokhozyaystvennykh nauk; BELOZEROVA, H.A., agronom; BELOZOROV, A.T., kand.sel'skokhozyaystvennykh nauk; MAKSIMENKO, V.P., agronom; BERNIKOV, V.V., doktor sel'skokhozyaystvennykh nauk; BOGOMYAGKOV, S.T., kand.sel'skokhozyaystvennykh nauk; VOLYNETS, O.S., agronom; BODROV, M.S., kand.sel'skokhozyaystvennykh nauk; BOGOSLAVSKIY, V.P., kand.tekhn.nauk; KHRUPPA, I.F., kand.tekhn.nauk; VERNER, A.R., doktor biol.nauk; VOZBUTSKAYA, A.Ye., kand.sel'skokhozyaystvennykh nauk; VOINOV, P.A., kand.sel'skokhozyaystvennykh nauk; VYSOKOS, G.P., kand.biol.nauk; GALDIN, M.V., inzhener-mekhanik; GERASIMOV, S.A., kand.tekhn.nauk; GORSHENIN, K.P., doktor sel'skokhozyaystvennykh nauk; YELENEV, A.V., inzhener-mekhanik; GERASKEVICH, S.V., mekhanik [deceased]; ZHARIKOVA, L.D., kand.sel'skokhozyaystvennykh nauk; ZHEGALOV, I.S., kand.tekhn.nauk; ZIMINA, Ye.A., agronom; BARANOV, V.V., kand.tekhn.nauk; PAVLOV, V.D.; IVANOV, V.K., kand.sel'skokhozyaystvennykh nauk; KAPLAN, S.M., kand.sel'skokhozyaystvennykh nauk; KATIN-YARTSEV, L.V., kand.sel'skokhozyaystvennykh nauk; KOPYRIN, V.I., doktor sel'skokhozyaystvennykh nauk; KOCHERGIN, A.Ye., kand.sel'skokhozyaystvennykh nauk; KOZHEVNIKOV, A.R., kand.sel'skokhozyaystvennykh nauk; KUZNETSOV, I.N., kand.sel'skokhozyaystvennykh nauk; LAMBIN, A.Z., doktor biol.nauk; LEONT'YEV, S.I., kand.sel'skokhozyaystvennykh nauk; MAYBORODA, N.M., kand.sel'skokhozyaystvennykh nauk; MAKAROVA, G.I., kand.sel'skokhozyaystvennykh nauk; MEL'NIKOV, G.A., inzhener; ZHDANOV, B.A., kand.sel'skokhozyaystvennykh nauk; MIKHAYLENKO, M.A., kand.sel'skokhozyaystvennykh nauk; MAGILEVTSEVA, H.A., kand.sel'skokhozyaystvennykh nauk;

(Continued on next card)

AFANAS' YEVA, A.L.... (continued) Card 2.

MIKIFOROV, P.Ye., kand.sel'skokhozyaystvennykh nauk; MENASHEV, N.I.,
lesovod; PERVUSHINA, A.N., agronom; PLOTNIKOV, N.A., kand.biol.nauk;
L.G.; kand.sel'skokhozyaystvennykh nauk; PAVLOV, V.D., kand.tekhn.
nauk; PRUTSKOVA, M.G., kand.sel'skokhozyaystvennykh nauk; GURCHENKO,
V.S., agronom; POPOVA, G.I., kand. sel'skokhozyaystvennykh nauk;
PORTYANKO, A.F., agronom; RUCHKIN, V.N., prof.; RUSHKOVSKIY, T.V.,
agronom; SAVITSKIY, M.S., kand.sel'skokhozyaystvennykh nauk; BOLDIN,
D.T., agronom; NESTEROVA, A.V., agronom; SERAFIMOVICH, L.B., kand.
tekhn.nauk; SMIRNOV, I.N., kand.sel'skokhozyaystvennykh nauk;
SEREBRYANSKAYA, P.I., kand.tekhn.nauk; TOKHTUYEV, A.V., kand. sel'sko-
khozyaystvennykh nauk; TAL'KO, O.S., iznh.; FEDYUSHIN, A.V., doktor
biol.nauk; SHEVLYAGIN, A.I., kand.sel'skokhozyaystvennykh nauk;
YUFEROV, V.A., kand.sel'skokhozyaystvennykh nauk; YAKHTENFEL'D, P.A.,
kand.sel'skokhozyaystvennykh nauk; SEMENOVSKIY, A.A., red.; GOR'KOVA,
Z.D., tekhn.red.

[Handbook for Siberian agriculturists] Spravochnaya kniga agronoma
Sibiri. Moskva, Gos. izd-vo sel'khoz. lit-ry. Vol.1. 1957. 964 p.
(Siberia-Agriculture) (MIRA 11:2)

YEREMEYEV, I.D.; MEL'NIKOV, G.A.

[Sugar-beet harvester] Svekloborochnyi kombain. 2., perer. izd.
Moskva, Gos. izd-vo selkhoz lit-ry, 1958. 242 p. (MIRA 11:11)
(Sugar-beets--Harvesting)

GALDIN, M.V.; KOBLYAKOV, L.M.; MEL'NIKOV, G.A.; ROZIN, M.A., red.;
DEYEVA, V.M., tekhn. red.

[Specialized combines] Spetsial'nye kombainy. Izd.2., pered.
i dop. Moskva, Sel'khozizdat, 1962. 255 p. (MIRA 15:11)
(Combines (Agricultural machinery))

MEL'NIKOVA, Georgiy Alekseyevich ROBYLYANOV, Leonid Mikhaylovich;
ROMANOV, P.V., nauchn. red.; TOCHILINA, L.V., red.

(Combines for sugar beet harvesting) Osvetloobrazhenye kombinov. Moskva, Vysshaya shkola, 1964. 185 p.

(NLR 17:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanizatsii sel'skogo khozyaystva (for Mel'nikov).

Мелников, Г. Б.

Melnikov, G. B. "Drainage waters of hydrolytic production and their effect on water furana and flora," Nauch. zapiski (Dnepropetr. gos. un-t), Vol. XXXII, 1948, p. 127-49

SO: 713050, 16 June 63, (Letovis 'Zhurnal 'evkh St'at', No. 5, 1948).

MEL'NIKOV, G.B.; BEN'KO, K.I.; CHAPLINA, A.M.; ZBITSKAYA, N.V.

Hydrobiological features of ponds in Dnepropetrovsk Province and the
nutrition of young carp. Trudy probl.i tem.sev.no.1:39-48 '51.(MIRA 9:7)
(Dnepropetrovsk Province--Fresh water biology)(Dnepropetrovsk Province--
Carp)

MEI'NIKOV, PROF. G. B.

Whitefishes - Ukraine

Acclimatizing whitefish in water bodies of the southeastern Ukraine. Ryb. khoz. 28 no. 7, 1952.

Monthly List of Russian Accessions, Library of Congress November 1952. UNCLASSIFIED.

MEL'NIKOV, G.B.

Formation and means of restoring the ichthyofauna of the Dnieper Reservoir after the restoration of the dam of the Dnieper Hydroelectric Power Station. Trudy Gidrobiol.ob-va 5:118-129 '53.
(MLRA 7:5)

1. Nauchno-issledovatel'skiy institut i kafedra gidrobiologii Dnepetrovskogo gosudarstvennogo universiteta.
(Dnieper reservoir--Fishes) (Fishes--Dnieper reservoir)

MEL'NIKOV, G.B.

Artificial afforestation in the steppe zone of Ukraine and hydrobiology of ponds. Zool.zhur. 32 no.5:804-808 S-O '53. (MLB 6:10)

1. Dnepropetrovskiy nauchno-issledovatel'skiy institut i kafedra gidrobiologii Dnepropetrovskogo gosudarstvennogo universiteta.
(Ukraine--Ponds) (Ponds--Ukraine)

MEL'NIKOV, G.B.

Fish population and commercial exploitation of Lake Lenin and the
small Ukrainian reservoirs. Vop. ikht. no. 3:32-49 '55.
(MLRA 8:11)

1. Institut gidrobiologii Dnepropetrovskogo universiteta
(Ukraine--Fishes)

MEL'NIKOV, Georgiy Borisovich, professor; SHTEYN, M., redaktor; ZMIY, V.,
tekhnicheskij redaktor

[Lenin Lake; hydrobiological and fishery aspects] Ozero Lenina;
hidrobiologichnyi i rybohospodars'kij narys. [Dnipropetrovs'k]
Dnipropetrovs'ke obl.vyd-vo, 1956. 42 p. (MLBA 10:9)
(Lenin Lake--Fishes)

MEL'NIKOV, G.B.

~~Transplanting the brim Abramis brama (L.) to Khristoforovka Reservoir~~
(Krivorozh'ye). Trudy Gidrobiol.ob-va 7:209-215 '56. (MLBA 10:2)

1. Nauchno-issledovatel'skiy institut i kafedra gidrobiologii Dnepropetrovskogo gosudarstvennogo universiteta.
(Khristoforovka Reservoir—Carp)

MEL'NIKOV, G.B.; LUB'YANOV, I.P.

Prediction of the biological regimen in the Dneprodzerzhinsk
Reservoir. Dop. AN URSR no.2:191-195 '57. (MLRA 10:5)

1. Dnipropetrovs'kiy naukovo-doslidniy institut gidrobiologii.
Predstaviv akademik AN URSR D.K. Zerov.
(Dneprodzerzhinsk Reservoir--Fresh-water flora)

MEL'NIKOV, G.B.; BELYAYEV, L.D.

Materials on the biology of fishes and fishing in the middle
Dnieper in connection with hydraulic construction work. Trudy
probl. i tem. sov. no.7:188-194 '57. (MLBA 10:4)
(Dnieper River--Fishes)

IOGANZEN, B.G.; KOSHTOYANTS, Kh.S.; MEL'NIKOV, G.B.; NIKOL'SKIY, G.V.

In memory of Charles Rouillier; on the centennial of his death.
Nauch. dokl. vys. shkoly; biol. nauki no.2:7-9 '58. (MIRA 11:10)

(Rouillier, Charles, 1814-1858)

AUTHOR: Mel'nikov, G.B.

SOV-21-58-8-24/27

TITLE: On the Study of the Zooplankton in the Simferopol' Reservoir
(K izucheniyu zooplanktona Simferopol'skogo vodokhranilishcha)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1958, Nr 8
pp 893-896 (USSR)

ABSTRACT: The Simferopol' reservoir was formed on the Salgir river not far from the town of Simferopol' in 1954. Its maximum depth is 37 m and its capacity amounts to 36 million cu m. The Dnepropetrovsk Scientific Research Institute and the Hydrobiology Chair of the State University have studied the hydrobiology of this reservoir since 1955. The zooplankton of the Crimean inner reservoirs has been studied by many investigators such as Ya.Ya. Tseyeb (Ref. 8), S.N. Ulomskiy (Ref. 6,7), A.Ya. Leshchinskaya (Ref. 3) and I.I. Puzanov (Ref. 4), but they gave no data on the Simferopol' reservoir. The author presents data on the qualitative and quantitative development of the plankton in this reservoir, based on investigations conducted from 1955 to 1957. The zooplankton composition was replenished by *Mesocyclops leuckarti*, *Daphnia cucullata* and *Leptodora Kindtii*, transferred from the Dnepr reservoir in 1955. The greatest quantitative development in the reservoir, due chiefly

Card 1/2

SOV-21-58-R-24/27

On the Study of the Zooplankton in the Simferopol' Reservoir

to Cyclops vicinus and Daphnia longispina, is observed in spring, autumn and winter (in December). There is 1 table and 10 Soviet references.

ASSOCIATION: Dnepropetrovskiy gosudarstvennyy universitet (Dnepropetrovsk State University)

PRESENTED: By Member of the AS UkrSSR, A.P. Markevich

SUBMITTED: February 13, 1958

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

1. Inland waterways--USSR 2. Plants--Growth

Card 2/2

ZHURAVEL', P.A.; MEL'NIKOV, G.B.; CHAPLINA, A.M.

Outlook for the acclimatization of the roach (*Rutilus rutilus heckeli* (Nordmann)) in southern reservoirs in relation to the nature of its feeding habits. Vop. ikht. no.10:127-130 '58. (MIRA 11:10)

1. Dnepropetrovskiy institut gidrobiologii Universiteta im. 300-letiya vossoyedineniya Ukrainy s Rossiyei.
(Russia, Southern--Roach (Fish))

MEL'NIKOV, G.B.; LUBYANOV, I.P.

Formation of zooplankton and benthonic fauna in Simferopol'
Reservoir in the Crimea [with summary in English]. Zool. zhur.
37 no. 6:820-831 Je '58. (MIRA 11:7)

1. Nauchno-issledovatel'skiy institut gidrobiologii Dnepropetrovskogo
gosudarstvennogo universiteta.
(Simferopol' Reservoir--Fresh-water fauna)

ZHURAVEL', P.A.; MEL'NIKOV, G.B.; CHAPLINA, A.M.

Significance of the bream *Abramis ballerus* for fishery in a number of reservoirs in connection with the nature of its food [with summary in English]. Zool. zhur. 37 no.8:1256-1257 Ag '58. (MIRA 11:9)

1. Nauchno-issledovatel'skiy institut gidrobiologii Dnepropetrovskogo gosudarstvennogo universiteta.
(Bream)

MEL'NIKOV, G.B. [Mel'nykov, H.B.], prof.; BELOKON', I.P. [Bilokon',
I.P.], kand.biolog.nauk, glavnyy red.

[Struggle between materialism and idealism in biology]
Borot'ba materializmu z idealizmom u biologii. Kyiv, 1959.
30 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh
znan' Ukrain's'koi RSR. Ser.5, no.10) (MIRA 12:12)
(GENETICS)

MEL'NIKOV, G.B.

Formation of the biological regimen in the Dnieper reservoir
cascade. Nauch. dokl. vys. shkoly; biol. nauki no.4:15-20 '59.
(MIRA 12:12)

1. Rekomendovana kafedroy gidrobiologii Dnepropetrovskogo
gosudarstvennogo universiteta im. 300-letiya vossoyedineniya
Ukrainy s Rossiyey.
(Dnieper Valley--Reservoirs) (Fresh-water biology)

MEL'NIKOV, G.B.; LUBYANOV, I.P.

Forecasting the biological regimen of Dneprodzerzhinsk Reservoir.
Vop. ikht. no.13:90-107 '59. (MIRA 13:3)

1.Nauchno-issledovatel'skiy institut gidrobiologii Dnepropetrovskogo
gosudarstvennogo universiteta im. 300-letiya vossoyedineniya Ukrainy
s Rossiyey.

(Dneprodzerzhinsk Reservoir--Fresh-water biology)

SHCHERBINA, Aleksey Konstantinovich, prof., doktor veterin.nauk;
MEL'NIKOV, G.B., prof., doktor biolog.nauk, red.; DONETS,
N.Ye., red.; ZHELIKHOVSKIY, V.I., red.; KVITKA, S.P.,
tekhn.red.

[Diseases of fishes and their control] Bolezni ryb i mery
bor'by s nimi. Kiev, Izd-vo Ukr.Akad.sel'khoz.nauk, 1960.
333 p. (MIRA 14:1)
(Fishes--Diseases and pests)

MEL'NIKOV, G.B., prof.; UL'CHENKO, Ye.M.

Zooplankton of the middle reaches of the Dnieper River in the
Kremenchug-Dneprodzerzhinsk section in connection with the
construction of the Dneprodzerzhinsk Hydroelectric Power
Station. Vest. Dnep. nauch.-issl. inst. gidrobiol. 12:93-
114 '60. (MIRA 14:12)

(Dnieper Valley--Zooplankton)

MEL'NIKOV, G.B., prof.

Biology and commercial characteristics of fishes in the middle reaches of the Dnieper River in connection with fishery forecasts for Dneprodzerzhinsk Reservoir. Vest. Dneprodzerzhinsk. issl. inst. gidrobiol. 12:171-208 '60. (MIRA 14:12)

(Dnieper River--Fisheries)

(Dneprodzerzhinsk Reservoir--Fisheries)

MEL'NIKOV, G.B.

Zooplankton of Simferopol Reservoir and the specific conditions governing its existence. Trudy Gidrobiol. ob-va 11:44-53 '61.

(MIRA 15:1)

1. Nauchno-issledovatel'skiy institut gidrobiologii Dnepropetrovskogo gosudarstvennogo universiteta, Dnepropetrovsk.

(Simferopol Reservoir--Zooplankton)

MEL'NIKOV, G.B.

Water reservoir as a biotope. Vop. ekol. 4:53-55 '62. (MIRA 15:11)

1. Gosudarstvennyy universitet, Dnepropetrovsk.
(Reservoirs) (Ecology)

MEL'NIKOV, G.B.; CHAPLINA, A.M.

Raising different species of fishes in the same pond as a method for increasing the productivity of ponds and small reservoirs in the steppe zone of the Ukrainian S.S.R.
Trudy sov. Ikht. kom. no.14:74-76 '62. (MIRA 15:12)

1. Nauchno-issledovatel'skiy institut gidrobiologii
Dnepropetrovskogo universiteta,
(Ukraine--Fish culture)

MEL'NIKOV, G.B.; SAL'NIKOV, N.Ye.

Development of the fishing industry and fishery management and tasks of the biological science in the light of the resolutions of the 22d Congress of the CPSU. Zool. zhur. 41 no.12:1771-1782 D '62. (MIRA 16:3)

1. Department of Ichthyology and Hydrobiology, State University of Dnepropetrovsk, and Institute of Hydrobiology, Academy of Sciences of the Ukrainian S.S.R., Kiyev.
(Fisheries)

MEL'NIKOV, G.B.; BELYAYEV, L.D.

Reproduction of fish stock in the middle course of the Dnieper River after its regulation. Vop' ekol. 5:131-133 '62. (MIRA 16:6)

1. Nauchno-issledovatel'skiy institut gidrobiologii
Dnepropetrovskogo universiteta.
(Dnieper River--Fishes)

MEL'NIKOV, G.B.; CHAPLINA, A.M.

Introduction of the Lake Sevan trout (*Salmo ischchan* Kessler) into
Crimean water reservoirs. Nauch. dokl. vys. shkoly; biol. nauki
no.3:28-30 '63. (MIRA 16:9)

1. Rekomendovana kafedroy gidrobiologii Dnepropetrovskogo
gosudarstvennogo universiteta im. 300-letiya vossoyedineniya
Ukrainy s Rossiyei.

(Crimea--Trout) (Fish introduction)

SKABALLANOVICH, I.A., doktor geol.-miner. nauk, otv. red.;
MEL'NIKOV, G.B., doktor biol.nauk, red.; KHMARSKIY,
N.Z., kand. geol.-min. nauk, red.; TOPCHIYEV, Ye.A.,
inzh., red.

[Transactions of the Conference on the Hydrogeology and
Engineering Geology of the Dnieper Reservoir Region and
Dnieper Valley Irrigation Systems] Trudy Soveshchaniia
po gidrogeologii i inzhenernoi geologii raiona dneprov-
skikh vodokhranilishch i irrigatsionnykh sistem Pri-
dneprov'ia. Dnepropetrovsk, Nauchno-issl. in-t geol.,
1962. 252 p. (MIRA 17:3)

1. Soveshchaniye po gidrogeologii i inzhenernoy geologii
rayona dneprovskikh vodokhranilishch i irrigatsionnykh
sistem Pridneprov'ya, 1962. 2. Dneprovskiy gosudarstven-
nyy universitet (for Skaballanovich, Mel'nikov, Khmarskiy).

ANTSyshKINA, L.M.; KIRILENKO, N.S.; MAMONTOV, V.Ya.; MEL'NIKOV, G.D.;
RYABOV, F.P.

Keeping fish in hermetic aquariums with Chlorella and without
it. Probl. kosm. biol. 4:646-654 '65. (MIRA 18:9)

MEL'NIKOV, G.B.; CHAPLINA, A.M.

Ichthyofauna and prospects of using Kal'mius and Gruzskiy
Yelanchik Rivers for fish farming. Gidrobiol. zhur. 1 no.2:
43-47 '65. (MIRA 18:6)

1. Nauchno-issledovatel'skiy institut gidrobiologii Dnepro-
petrovskogo gosudarstvennogo universiteta.

KOSYMOV, A.G., doktor biol. nauk; MEL'NIKOV, G.B., prof., red.

[Aquatic fauna in the lower Kura River and Mingechaur
Reservoir] Gidrofauna Nizhnei Kury i Mingechaurskogo vo-
dokhranilishcha. Baku, Izd-vo AN Azerb.SSR, 1965. 370 p.
(MIRA 18:11)

L 16811-66 EWT(1) SCTB DD

ACC NR: AT6003903

SOURCE CODE: UR/2865/65/004/000/0646/0654

AUTHOR: Antsyshkina, L. M.; Kirilenko, N. S.; Mamontov, V. Ya.; Mel'nikov, G. B.;
Ryabov, F. P.

ORG: none

50

B+1

TITLE: Experiment on fish kept in hermetically sealed aquariums with and without
Chlorella v

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii,
v. 4, 1965, 646-654

TOPIC TAGS: algae, Chlorella, photosynthesis, oxygen, closed ecology system,
carbon dioxide

ABSTRACT: Two series of experiments were performed with crucian carp and algae to
determine the survival time of the fish. In the first series, the aquarium was di-
vided into two compartments by a partition 6 cm from the top. One compartment (8
liter capacity) contained *Chlorella pyrenoidosa*-82 while the other (16 liter capa-
city) contained the fish. Both were connected by an air cushion through which the
gases diffused in two directions. The fish were supplied with oxygen released by

Card 1/2

2

L 16811-66

ACC NR: AT6003903

the algae during photosynthesis. In the second series of experiments, the fish were exposed to *Chlorella vulgaris*-25 which served both as a source of oxygen and as food. There was no air cushion. Analysis of the results of the first series of experiments showed that during the first 48 hours oxygen and carbon dioxide contents decreased, but thereafter the oxygen content rose considerably and remained at that level until the end of the experiment. The fish lived 39-49 days. In the second series of experiments, without an air cushion, the oxygen content decreased sharply due to the low level of chlorella photosynthesis and the fish survived only 11-37 days. The weak photosynthetic activity was ascribed to the insufficiency of light resulting from the energetic multiplication of the algae and to the inadequate supply of carbon dioxide. Orig. art. has: 3 tables.

SUB CODE: 06/

SUBM DATE: 00/

ORIG REF/ 000/

OTH REF: 000

Card 2/2 *net*

MEL'NIKOV, G.D., inzh.; ZEYLIDZON, Ye.D., inzh.; GALAKTIONOV, A.S., inzh.;
LEONOV, S.A., inzh.; SHLOPOV, Ye.P., inzh.

Certain problems in the structure of dispatcher control in power
systems. Elek.sta. 28 no.12:59-63 D '57. (MIRA 12:3)
(Power engineering)

ANDRIYASHEV, K.Ya., inzh.; MEL'NIKOV, G.D., inzh.

Phasing high-tension lines. Elek. sta. 29 no. 11:85 N '58.
(MIRA 11:12)
(Electric power distribution--High tension)

MEL'NIKOV, G.D., inzh.; SOKOL, I.A., inzh.

Recording device with magnetic memory. Elek. sta. 34 no.8:61-
62 Ag '63. (MIRA 16:11)

CHISTOV, S. I., inzh.; MEL'NIKOV, G. I., inzh.

Shortcomings in the design and construction of units for the
production of synthetic fatty acids. Bezop. truda v prom. 6
no.9:14-15 S '62. (MIRA 16:4)

1. Chernikovskiy neftepererabatyvayushchiy zavod, g. Ufa.

(Acids, Fatty)

MEL'NIKOV, G. I.

MEL'NIKOV, G. I. -- "Certain Problems of the A. M. Lyapunov Direct Method and Their Application in the Problem of the Controllability of a Ship." Leningrad Order of Lenin State U imeni A. A. Zhdanov, Leningrad, 1956. (Dissertation for the Degree of Candidate in PHYSICOMATHEMATICSL SCIENCES).

SO: KNIZHNAYA LETOPIS' (Book Register), No. 42, October 1956, Moscow.

SUBJECT USSR/MATHEMATICS/Differential equations CARD 1/2 PG - 898
 AUTHOR MEL'NIKOV G.I.
 TITLE Some questions of the direct Ljapunov method.
 PERIODICAL Doklady Akad.Nauk 110, 326-329 (1956)
 reviewed 6/1957

Let a system of differential equations have a solution for all $t \geq t_0$ in the neighborhood $\bar{g}$ of the coordinate origin. A V -function is a continuous positive-definite function being unique in $\bar{g}$ which for $t \geq t_0$ has an infinitely small upper bound and which satisfies the following condition: for fixed values c and t ($0 < c \leq H$, $t \geq t_0$) let by $V(x_1, \dots, x_n, t) \leq c$ a region $\bar{D}(c, t)$ be determined uniquely in $\bar{g}$.

The derivative $\frac{dV}{dt} = V_1$ is determined in the usual manner with the aid of the given system of differential equations. Then the following theorem is valid:
 1. If V_1 for all $t \geq t_0$ is negative definite in $\bar{g}$, then in a certain $\bar{D}(h, t)$ a unique continuous function $f(V)$ can be constructed such that $f(V) > 0$ for $0 < V \leq h$, $f(0) = 0$ and $\frac{dV}{dt} \leq -f(V)$.

Doklady Akad.Nauk 110, 326-329 (1956)

CARD 2/2

PG - 898

There follow several assertions on the asymptotic stability and estimations of the damping, e.g.:

2. If in $\bar{D}(h, t)$ a V -function has been found the derivative of which in the ring $h_1 \leq V \leq h$ satisfies the condition $V_1 \leq -f(V)$ for all $t \geq t_0$, where $f(V) > 0$ in the ring, then the solutions with initial conditions of $\bar{D}(h, t_0)$ shall not leave the region $D(h, t)$ and after a time

$$\tau \leq \int_{h_1}^h \frac{dc}{f(c)}$$

they shall come into the region $\bar{D}(h_1)$ in which then they shall stay. Here $\bar{D}(h)$ is the region depending on t in which $\bar{D}(h, t)$ is contained.

INSTITUTION: $\check{Z}$ danov University, Leningrad.

MEL'NIKOV, G.I.

A method for calculating the largest real part of roots of
characteristic equations [with summary in English, p.212]. Vest.
Len.un. 12 no.1:180-187 '57. (MLRA 10:5)
(Differential equations, Linear) (Determinants)
(Equations, Roots of)

31(5)

AUTHOR: Mel'nikov, G.I.

SOV/43-59-7-12/17

TITLE: On the Ship Steering Theory (K teorii upravlyayemosti sudna)

PERIODICAL: Vestnik Leningradskogo universiteta, Seriya matematiki, mekhaniki i astronomii, 1959, Nr 7(2), pp 118-128 (USSR)

ABSTRACT: The author considers the stability of the steered course under the usual assumptions (1. unimportant influence of the ship vibrations to the forward motion, 2. the hydrodynamic forces are quasi-stationary, 3. the hump resistance can be neglected). The symmetry of the hull to the transverse plane is not assumed. The author establishes motion equations partly improved compared with the well-known equations. The equations are brought to a form suitable for investigations:

$$\begin{cases} \dot{v}v' = a - bv - cv^2 + f(v_y, \omega, \beta, v) \\ \dot{v}_y' = a_1 v_y + b_1 \omega + c_1 v \beta + f_1(v_y, \omega, \beta, v) \\ \dot{\omega}' = a_2 v_y + b_2 \omega + c_2 v \beta + f_2(v_y, \omega, \beta, v) \\ \dot{\theta} = \frac{\omega}{v} \end{cases}$$

Here f is an even series of second order in v_y, ω, β ; f_1 and f_2

Card 1/2

11

On the Ship Steering Theory

SOV/43-59-7-12/17

are odd series of third order. The author derives the well-known formula of Munk and for some special cases he proposes an approximate solution of the motion equations. The author mentions A.M.Basin.

There are 2 figures, and 13 references, 11 of which are Soviet, and 2 American.

SUBMITTED: September 5, 1957

Card 2/2

PLATE I BOOK EXPLOITATION 307/4630

Leningrad, University

Mechanics (Mechanics) [Leningrad] 1960. 254 p. (Series: For University, no. 280. In five volumes: 1st, 2nd, 3rd, 4th, 5th) First all printed. 1,705 copies printed.

Sponsoring Agency: Leningradskiy ordena Lenina gosudarstvennyy universitet imeni A. A. Zhukova.

Resp. Ed.: B. B. Polyakov, Professor; Ed.: T. I. Khlagina, Tech. Ed.: Ye. G. Zhurav.

PURPOSE: This collection of articles is intended for scientists, engineers at NII's (scientific research institutes) and design offices and also for students of advanced courses in related fields.

CONTENT: The collection consists of original investigations in the field of modern mechanics including general mechanics, theory of elasticity, and hydrodynamics. 85 personalities are mentioned. References accompany all articles except the.

1. Melnikov, G.I. On Differential Equations of Triangular Form 31
2. Kiselev, V.G. Supplements to the Reports on Nonlinear Mechanics 36
3. Korovin, V.G. Equations of Motion of Nonlinear Mechanical Systems With Constraints: Belonging to the Type of S.D. Gostarev 53
4. Gostarev, S.D. THEORY OF ELASTICITY 63
5. Belyakov, I.I. Optical Properties of Plastics Used in the Optical Polarization Method for Stress Analysis 63
6. Zaytsev, V.S. On the Problem of Information of a Cylindrical Rod 70
7. Maslov, V.A. Approximate Solution of the Problem of the Action of Circumferential Forces on a Cylindrical Shell 77
8. Pochinov, V.A. On the Equations of the Nonlinear Theory of Double-Operation Beams 97
9. Melnikov, G.I. and V.I. Kiselev. Investigation of the Field of Stresses in Some Other Problems in the Case of Multiple Loading 115
10. Pochinov, V.A. Elastic-Plastic Equilibrium of a Sheet With a Circular Hole in the Presence of a Particular Temperature Field 130
11. Gostarev, S.D. Analysis of Ultimate Stresses of Steel in the Case of Multiple Loading Under Conditions of a Biaxial Stressed State 136
12. Gostarev, S.D. Determination of the Elastic Constants of Paper 147
13. Gostarev, S.D. and E.M. Chirpashov. On the Calculation of a Bilinear Elastic Material by Plasticity 156
14. Melnikov, G.I. and V.I. Kiselev. EFFECT OF COMPRESSIBILITY ON THE AERODYNAMIC THEORY OF TURBULENCE 166
15. Gostarev, S.D. and A.A. Gostarev (Gostarev). Turbulent Boundary Layer of a Flow in a Compressible Fluid 170
16. Gostarev, S.D. and E.M. Chirpashov. Boundary Layer of a Flow in a Compressible Fluid 186
17. Gostarev, S.D. and E.M. Chirpashov. Boundary Layer of a Flow in a Compressible Fluid 197
18. Gostarev, S.D. Effect of the Depth of Immersion on the Quantity of the Immersed Mass of a Sphere 203
19. Gostarev, S.D. Effect of the Depth of Immersion on the Quantity of the Immersed Mass of an Ellipsoid of Revolution 207

HYDRODYNAMICS

MELNIKOV, G.I.

MEL'NIKOV, G.I.

Nonlinear stability of motion of a ship on course. Vest. LGU
17 no.13:90-98 '62. (MIRA 15:7)
(Stability of ships)

MELNIKOV, G.I.

Note on an equation of a ship's motion. Vest. LGU 17 no.19:159-
161 '62. (MIRA 15:10)
(Motion) (Differential equations)

MEL'NIKOV, G.I.

A method for investigating controllers with viscous friction. Izv.
vys.ucheb.zav.; prib. 6 no.3:107-114 '63. (MIRA 16:9)

1. Leningradskiy institut tekhnoy mekhaniki i optiki. Rekomendovana
na kafedroy teoreticheskoy mekhaniki.

MEL'NIKOV, G.I.

Approximate integration of the equations of undisturbed motion
in the case of a singular root. Vest. LGU. 18 no.19:112-123 '63.
(MIRA 16:11)

L 7916-66 EMT(d)/EMT(l)/EMP(m)/ES(r)-3/EWA(d)/T/ECS(k) LJP(c) GW
 ACC NR: AP5027358 SOURCE CODE: UR/0043/65/000/004/0099/0111

AUTHOR: Mel'nikov, G. I.

ORG: none

TITLE: Nature of decay of perturbed motion in two singular cases

SOURCE: Leningrad. Universitet. Vestnik. Seriya matematiki, mekhaniki i astronomii,
 no. 4, 1965, 99-111

TOPIC TAGS: differential equation, stability

ABSTRACT: Under the conditions that asymptotic stability of motion is achieved, the author obtains estimates of the rate of decay of perturbed motion governed by

$$\frac{dy_s}{dt} = \lambda_s y_s + r_{s-1} y_{s-1} + \sum_{i_1 + \dots + i_{s-1} = s} p_{i_1 \dots i_{s-1}} y_1^{i_1} \dots y_{s-1}^{i_{s-1}} \quad (s=1, \dots, n) \quad (1)$$

for two singular cases of A. M. Lyapunov (Obshchaya zadacha ob ustoychivosti dvizheniya. Sobr. soch. akad. A. M. Lyapunova, t. II, Izd. AN SSSR, 1956). Orig. art. has: 60 formulas.

Card 1/2

UDC: 531.01

L 7916-66

ACC NR: AP5027358

SUB CODE: MA/ SUBM DATE: 25Apr64/ ORIG REF: 003

Card 2/2

L 23462-65 EWT(d) Pg-4 IJP(c)

ACCESSION NR: AP5003965

S/0103/65/026/001/0011/0018

AUTHOR: Mel'nikov, G. I. (Leningrad)

TITLE: Determination of transient processes in nonlinear automatic systems

SOURCE: Avtomatika i telemekhanika, v. 26, no. 1, 1965, 11-18

TOPIC TAGS: nonlinear automatic system, nonlinear differential equation, canonic nonlinear equation, nonlinear equation solution

ABSTRACT: The problem of determining transient processes in plants which can be described by a system of nonlinear differential equations with analytic right-hand sides composed of a linear part, a homogeneous nonlinear part with constant coefficients, and a remainder function which is represented by an absolutely convergent power series is studied. Assuming that this system can be reduced to equations of the form

$$\frac{dy_s}{dt} = \lambda_s y_s + \mu_{s-1} y_{s-1} + \sum_{\nu_1 + \dots + \nu_n = \nu} p_s^{(\nu_1, \dots, \nu_n)} y_1^{\nu_1} \dots y_n^{\nu_n} +$$

Card 1/ 3 $+ Y_s^{(m(s))}(y_1, \dots, y_n) \quad (s = 1, \dots, n),$

(1)

L 23462-65

ACCESSION NR: AP5003965

by means of a linear transformation, it is shown that by using a certain polynomial transformation and by proper selection of $Y^{(m+1)}$, system (1) can be reduced to a canonical form

$$\frac{dz_s}{dt} = \lambda_s z_s + \mu_{s-1} z_{s-1} + \sum_{\substack{\tilde{\nu}_1 + \dots + \tilde{\nu}_{s-1} = s \\ \tilde{\nu}_1, \dots, \tilde{\nu}_{s-1}}} a_{\tilde{\nu}_1, \dots, \tilde{\nu}_{s-1}}^s z_1^{\tilde{\nu}_1} \dots z_{s-1}^{\tilde{\nu}_{s-1}} \quad (2)$$

($s = 1, \dots, n$).

Formulas are derived by means of which the coefficients of system (2) and the coefficients of the remainder terms $Y^{(m+1)}$ can be determined such that system (1) is exactly transformed into form (2). The solution of system (2) is constructed in the class of exponential and power functions. Exact and approximate formulas are derived for the solution of (2). Error estimates of the approximate solution are presented for certain particular cases. Orig. art. has: 25 formulas. [LK]

ASSOCIATION: none

Card 2/3

MEL'NIKOV, G.I.

Character of the damping of perturbed motion in two special cases.
Vest. LGU 20 no.19:99-111 '65. (MIRA 18:10)

ACC NR: AP602543

SOURCE CODE: Ur/0103/66/000/000/0015/0022

AUTHOR: Mel'nikov, G. I. (Leningrad)

ORG: none

TITLE: On angular stabilizing of aircraft by nonlinear control

SOURCE: Avtomatika i telemekhanika, no. 8, 1966, 15-22

TOPIC TAGS: nonlinear automatic control system, aircraft maneuver, aircraft stability

ABSTRACT: The problem of improving angular stability in aircraft is discussed by introducing nonlinear parameters in the aircraft control system. The controlled angular motion (to third order) is given by

$$\ddot{\theta} = -a\delta + c\theta, \quad \dot{\delta} = f(\sigma); \quad (1)$$

where

$$f(\sigma) = k_1\sigma - k_2\sigma^3. \quad (2)$$

The control law for σ , in turn, is given by the simple linear expression

$$\sigma = \tilde{\sigma} = k_3^{-1}(-k_4\delta + k_1\dot{\theta} + k_2\theta), \quad (3)$$

or, with the addition of cubic terms,

$$\sigma = \sigma + k_3^{-1} \sum_{v_1+v_2+v_3=3} p(v_1, v_2, v_3) \delta^{v_1} \dot{\theta}^{v_2} \theta^{v_3}. \quad (4)$$

Card 1/2

UDC: 62-502.17

ACC NR: AP6029543

For $p \gg k$, equations (1--4) are solved for the angular displacement of the steering rudder δ and for an ideal control system, written as a nonlinear differential equation of the second order, i.e.,

$$\ddot{\theta} + 2\kappa\dot{\theta} + (\kappa^2 + \mu^2)\theta + \sum_{v_1+v_2=3} a_{v_1 v_2} \theta^{v_1} \dot{\theta}^{v_2} = 0. \quad (5)$$

This equation is then integrated, and the expression for the characteristic coefficient $q^{(2,1)}$ is given in terms of the control parameters $p^{(v_1, v_2)}$. A set of conclusions is arrived at on the particular choice of nonlinear control law selected with regard to speed of control and damping out of angular perturbations. Orig. art. has: 40 equations.

SUB CODE: c, 13/ SUBM DATE: 27Jul65/ ORIG REF: 006

Card 2/2

ACC NR: AP6031351

SOURCE CODE: UR/0237/66/000/009/0001/0004

AUTHOR: Baranov, V. K.; Mel'nikov, G. K.

ORG: none

TITLE: Investigation of optical-technological characteristics of hollow
focons ↗

SOURCE: Optiko-mekhanicheskaya promyshlennost', no. 9, 1966, 1-4

TOPIC TAGS: solar energy conversion, solar furnace, light reflection,
light transmission

ABSTRACT: Because of difficulties which they encountered in making accurate calculations of the paths of oblique rays passing through focons of various shape, the authors thought it useful to investigate the phenomenon experimentally. For this purpose, two focons were constructed, one of conical form and the other of parabolic toroidal form with a 30° parametric angle (the angle between the axis of the parabola and the axis of the instrument). The entrance and exit diameters of the conical focon were the same as those of the parabolic focon. Both focons had the same length. At increasing entrance angles the falling-off of light transmission takes place slowly in the parabolic toroidal focon and more quickly in the conical one. At an angle of 25° virtually

Card 1/2

UDC: 535:666.189.2

ACC NR: AP6031351

the entire surface of the end face of the parabolic toroidal focon is working; in the case of the conical focon, only half of it is working. The light leaving the parabolic toroidal focon is uniformly concentrated in an angle similar to the parametric angle of the instrument. In the case of the conical focon, the major part of the light is concentrated in a comparatively smaller solid angle. Orig. art. has: 3 figures. [ZL]

SUB CODE: 20/ SUBM DATE: 01Sep65/ ORIG REF: 002/ ATD PRESS: 5088

Card 2/2

L 02203-67 EWT(d)/EWT(m)/EWP(f)/EWP(c)/EWP(v)/EWP(j)/I/EWP(k)/EWP(h)/EWP(l)

ACC NR: AR6029640
IJP(c) RM

SOURCE CODE: UR/0282/66/000/006/0090/0090

AUTHOR: Kapustin, N. M. ; Mel'nikov, G. N.

38
B

TITLE: Investigation and development of technology for the production of plastic-coated dies

SOURCE: Ref. zh. Khimicheskoye i kholodil'noye mashinostroyeniye, Abs.
6. 47. 590

REF SOURCE: Sb. tr. Mosk. vyssh. tekhn. uch-shcha im. N. E. Baumana, v. 5,
1965, 98-109

TOPIC TAGS: die, plastic coating, plastic coated die, cast iron die

ABSTRACT: The ¹⁴production technology of ¹⁵plastic-coated ¹⁴cast-iron dies is discussed. Recommendations are given for the selection of plastics. A theoretical estimate of the shrinkage of a coating on a cast iron die is also given. Orig. art. has: 8 figures and a bibliography of 2 reference items. [Translation of abstract].

SUB CODE: 11, 13/

Card 1/1 LC

UDC: 621.964:678.5.026

MEL'NIKOV, G. P.

120-6-13/36

AUTHORS: Mel'nikov, G.P., Artemenkov, L.I., and Golubev, Yu.M.

TITLE: Multi-channel Amplitude Analyser with Recordings on a Potentialoscope (Mnogokanal'nyy amplitudnyy analizator s registratsiyey na potentsialoskope)

PERIODICAL: Priory i Tekhnika Eksperimenta, 1957, No.6, pp. 57 - 67 (USSR).

ABSTRACT: An electron-beam tube with accumulated charges has been used for the first time in a multi-channel analyser for amplitude-time transformation by I.V. Shtranikh (Ref.1). The results of analysis were thereby recorded by means of mechanical counters. A feature of the analyser, described in this paper, is the system of high-speed recording of the results of analysis, whereby the new method can be materialised not only in conjunction with an electron-beam tube, but also in conjunction with ferrite cores, for instance. This method was originally proposed by one of the authors at the end of 1952 (Refs. 2 and 9). In this paper, a multi-channel amplitude analyser is described, applying the here mentioned new method of recording the results of analysis on an electron-beam tube with charge accumulation. The first model, $\mathfrak{M}A-1$, has 64 channels; the second model, $\mathfrak{M}A-2$, which is at present in operation, differs little from the first one, but

Card 1/3

120-b-13/36
Multi-channel Amplitude Analyser with Recordings on a Potentialoscope.

provides a possibility for switching over the number of channels from 64 to 128 or 226 with capacities of 2^{64} , 2^{32} , 2^{16} impulses per channel, respectively. The dead time of the recording section is 20 to 30 μ sec. In the analysing section, the principle of amplitude-time transformation is applied which has been described by D.H. Wilkinson (Ref.3), the dead time being 1.5 μ sec per channel. An image of the amplitude spectrum is obtained on the oscillograph section. The total number of tubes is 170. In the paper, the author pays attention mainly to describing this new method; the circuits reproduced in the paper refer to the first model, Σ A-1. The basic block schematics of the analyser is given in Fig.1, p.58. In Fig.2, some measured results are reproduced and graphed. The actual block schematics of the analyser are shown in Fig.3. Fig.4 shows the circuit diagram of the input block; Fig.5 shows the circuit diagram of the transformation block. Fig.6 shows the circuit diagram of the control block. Fig.7 shows the circuit diagram of the deflection block, whilst in Fig.8, the spectra of the gamma-radiation recorded by means of the Σ A-1 analyser for Hg^{208} , Cs^{37} and Co^{60} are graphed. This analyser was exhibited at the All-Union Industrial Exhibition at the

Card2/3

120-6-13/36

Multi-channel Amplitude Analyser with Recordings on a Potentialscope.

beginning of 1956, where it was in operation daily for 8 hours. A number of possible simplifications and improvements are mentioned. The authors claim that the multi-channel analysers with ferrite memory elements, marketed in 1955 and 1956 in the USA and described by P.W. Byington and C.W. Johnston (Ref.6) and R.W. Schumann and J.P. McMahon (Ref.7), are much more cumbersome and more expensive than the here described analyser from the point of view of speed and channel capacity. The paper summarises the results of work relating to designing a multi-channel analyser carried out between 1953 and 1955. If the modifications mentioned in the paper are applied, it will be possible to build a table-model analyser of the oscillograph type with about 50 tubes, 100 to 300 channels with practically unlimited channel capacity, 1 - 2 μ sec average dead time and twin or linear recordings of the spectrum. Acknowledgments are made to P.A. Cheremnykh, A.A. Markov and G.N. Sofiyev for advice and assistance in developing the here described analyser. There are 8 figures and 9 references, 4 of which are Slavic.

SUBMITTED: April 8, 1957.

AVAILABLE: Library of Congress.
Card 3/3

21,5300

66370

AUTHOR: Mel'nikov, G.P.

SOV/120-59-5-13/46

TITLE: Reducing the Time Lag Variability of the Output Pulses
from a Pulse-height Analyser

PERIODICAL: Pribery i tekhnika eksperimenta, 1959, Nr 5,
pp 61 - 63 (USSR)

ABSTRACT: The system is one designed to reduce the time lag variability from about 10^{-6} sec to less than 7×10^{-6} sec; it uses a high-gain amplifier feeding a limiter to reduce the variability arising from variations in the slope of the leading edge of the pulse. The actual lag is increased because an extra gate (coincidence circuit) is introduced at the output from the analyser.

Figure 1 shows the block diagram; the units on the extreme left are the pulse sources and the three diagrams relate respectively to uses: a) in a system involving fast and slow coincidences; b) in a simple pulse-height analyser and c) in a single-channel analyser. The only circuit details are given in Figure 3, which shows the amplifier and limiter actually used. Figure 2 illustrates the

Card 1/2

66370

Reducing the Time Lag Variability of the Output Pulses from a
Pulse-height Analyser

SOV/120-59-5-15/46

waveforms occurring at various points in the circuit, which produces very short pulses at the start of the input pulse; the delay varies only very slightly with the initial slope of the leading edge. Figure 4 illustrates some results obtained with a ^{60}Co source used with a CsI crystal and photomultiplier; the horizontal (time) scale is in μsec .

There are 4 figures and 3 references, 1 of which is Soviet and 2 are English.

SUBMITTED: September 1, 1958

Card 2/2